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Comment on essd-2021-43

Mary Kruk

Community comment on "The Surface Water Chemistry (SWatCh) database: a standardized global database of water chemistry to facilitate large-sample hydrological research" by Lobke Rotteveel et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-43-CC1>, 2021

Hello,

With your manuscript currently under review I thought this would be a good opportunity to highlight a Canadian water quality database that currently addresses some of the challenges outlined in your paper.

I work on DataStream, an open access platform for sharing water quality data. It allows users to access, visualize, and download water quality datasets collected by monitoring programs across regional hubs in Canada (the Mackenzie Basin, Lake Winnipeg Basin, Atlantic Canada, and a Great Lakes hub coming October). A main focus of DataStream is to help community monitoring groups, citizen scientists, researchers, and governments share their data at a regional-scale by adopting the US EPA/USGS WQX data standard to promote data (re)use and interoperability in transboundary watersheds.

We thought it would be relevant to reach out because DataStream has faced many of the same challenges you address in your paper -- such as differing sample collection/analytical methods, reporting ambiguity, and spatial data gaps across Canada. We have found that the adoption of the WQX schema, used in the US Water Quality Portal, has helped us to align data collected by a wide range of monitoring initiatives. DataStream requires metadata on sample collection and analytical methods with each data point and reduces variable naming ambiguity by using the WQX list of allowed values for water chemistry parameters. We are constantly trying to evolve and improve the DataStream data standard and platform to better address these issues as I'm sure you are aware it is a large undertaking.

Given the alignment between your area of research and our work with DataStream I would encourage you to review the DataStream schema (<https://github.com/gordonfn/schema>) for consideration in your manuscript.

Sincerely,

Mary Kruk
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